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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Sung Hyuk Hong

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EXAMINER

JAIN, RAJ K

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/029,252	Applicant(s) HONG, SUNG HYUK	
	Examiner RAJ JAIN	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 6-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-25 is/are rejected.
- 7) ☒ Claim(s) 5,6 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/23/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Claims 9, 10, 13-15, 18-20 and 23, recite features which are not explicitly disclosed in the specifications. Examiner recommends modifying the specifications to incorporate the features of subject claims, furthermore, it is suggested Applicant review all claims to make sure the claims meet enablement requirements. Appropriate correction is required.

Claim Rejections - 35 USC § 101

Claim(s) 1, 2 and 5-26 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled “Clarification of ‘Processes’ under 35 U.S.C. 101”). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 3-23 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for “order of transmission, does not reasonably provide enablement for “specific order of transmission”. The independent claims 1 and 16 recite “subframe numbers arranged in a specific order to correspond to positions....”. Examiner recommends removal of the term “specific” to overcome the enablement rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wasilewski et al (US 005319707A) in view of Deluca et al (USP 5,128,665) and further in view of Touma et al (USP 6,228,806 B1).

Regarding claims 1, 16 and 24, Wasilewski discloses a method and apparatus for forward transmission (see Fig. 1, abstract, transmitter 18 for forward transmission) comprising:

processing a present data frame to be transmitted (Fig. 1, encoder 16 processes data to be transmitted, see col 5 lines 54-60.) the present data frame comprising:

- a header subframe containing frame mapping information of data to be transmitted to a plurality of terminals (see Fig. 15, col 24 lines 27- 40 each subframe vcm contains a header 288 followed by plurality of subframe virtual channel map definitions that specifies a particular virtual channel number for the subscriber to select via appropriate decoders.); and,

- data subframes containing data multiplexed therein, and to be transmitted to a plurality of terminals at the present time in correspondence to frame mapping information transmitted in a frame in advance of the header subframe of the present frame, wherein the frame mapping information transmitted in the frame in advance of the header subframe of the present fame includes subframe numbers (see col 3 lines 14-17; Figs. 1 and 2, col 6 lines 39-50; a subframe of data streams is multiplexed at the encoder 16 for transmission, each subframe data is mapped which is transmitted in advance (Fig. 4) to the receiver prior to actual data arriving so there is minimum delay in processing; Fig. 19(a) illustrates a data subframe, with different data types transmitted in advance see col 29 lines 10 – 65). Wsilewski further discloses wherein the mapping

information is transmitted in the frame in advance of the present frame transmitted "n" frames before the present frame (See Fig. 13 mapping info transmitted in advance of the present frame).

Wasilewski however fails to disclose subframes arranged in a specific order to correspond to positions of corresponding multiplexed sub frames.

Deluca discloses a message structure (superframe) which comprises multiple packets (subframes) (Fig. 1). In the address field in Delucas system, the address signal numbers 1-L are arranged in a specific order to correspond to positions of the corresponding packets 1-L (subframes) in the message (superframe). This simple mechanism enables the receiver to quickly detect the appropriate packet based on the position of the address signal number. Thus, it would have been obvious to one skilled in the art at the time the invention was made to apply Delucas teaching of arranging address signal numbers in a specific order to correspond to positions of the corresponding packets 1-L (subframes) in the message (superframe) in Wasilewski with the motivation being to provide a simple mechanism to enable the receiver to quickly detect the appropriate frame based on the position of the subframe number.

Both Wasilewski and Delucas explicitly fail to disclose transmitting the sub frames in advance of the header subframe.

Touma discloses transmitting the sub frames in advance of the header subframe (Fig. 4 & 5; col 11 lines 30- col 12 line 33). Transmission of the subframe numbering in advance allows for proper reassembly of the message frame at the receiving device without delay. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Touma within Wasilewski and Delucas so as to enhance overall network performance by having the receiver knowledge of incoming sub frames so as to allow for quick reassembly without delay.

Regarding claim(s) 2, 14, Touma discloses transmitting the sub frames in advance of the header subframe (Fig. 4 & 5; col 11 lines 30- col 12 line 33). Transmission of the subframe numbering in advance allows for proper reassembly of the message frame at the receiving device without delay. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Touma

within Wasilewski and Delucas so as to enhance overall network performance by having the receiver knowledge of incoming sub frames so as to allow for quick reassembly without delay.

Regarding claims 7, 8, 15, 21 and 22, Wasilewski discloses encoded subframes that are inherently coded and scrambled (see Fig. 1 decoder 36, col 3 lines 34-50, the codes are scrambled to differentiate users receiving the spectrum of information as broadcast by the transmitter)

Regarding claims 9, 10, 19 and 20 Wasilewski discloses multiplexed data stream (see Fig. 2, and abstract, encoder 16 (Fig. 1) illustrates data multiplexed prior to transmission.)

Regarding claims 11, 17, Wasilewski discloses data interleaving, encoding and scrambling (see Figs 3a and 12a.).

Regarding claim 12, Wasilewski discloses data transmission to plurality of terminals (see Fig.1), power supply to turn on or off data transmission is inherent to the invention.

Regarding claim 13, Wasilewski discloses broadcasting to all terminals ((see Fig.1, single transmitter 23 broadcasting to plurality of receivers 20, 24),

Regarding claim 18, Wasilewski discloses an encoder 36 (Fig. 1) that performs data and subframe information extraction (see col 3 lines 34-50.)

Regarding claim 24, Wasilewski discloses scalable or flexible data transmission rate based on transmission medium characteristics (see col 2 lines 7-20, col 11 lines 14-25.).

Regarding claims 18 and 25, Wasilewski discloses transmitting the mapping information at least 1 frame in advance and information on positions of the multiplexed data in the frame transmitted (see Fig. 19a col 29 lines 30-47, col 3 lines 14-17, col 7 lines 60-67, a subframe of data streams once formed is multiplexed at the encoder 16 of Fig. 1 for transmission, furthermore each subframe data is mapped which is transmitted in advance to the receiver so that it may be ready for decoding prior to actual data arriving so there is minimum delay in processing the received data).

Allowable Subject Matter

Claims 5, 6 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 5-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAJ JAIN whose telephone number is (571)272-3145. The examiner can normally be reached on M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raj Jain/

Examiner, Art Unit 2416